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07/913,736

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EXAMINER
CHAN, E

ART UNIT	PAPER NUMBER
2316	#13

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DATE MAILED: 11/17/92

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☑ This application has been examined ☑ Responsive to communication filed on 7/14/92 ☑ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, Form PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☑ Claims 71, 72, 74-78, 80-84 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☑ Claims 1-70, 73, 79 have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☑ Claims 71, 72, 74-78, 80-84 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☐ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

1. Applicant in his response should amend the insertion before the first line of the specification by referring the instant application being a divisional case of two issued parts.

2. Applicant is advised that twice amended claims 71, 72, 76 and 77 have not been entered because these claims have not been amended according to 37 CFR 1.121. The following rejections on claims 71, 72, 76 and 77 are directed to amended 71, 72, 76 and 77, filed 10/9/91. Moreover, applicant is also advised that there is no PTO-1449 enclosed with applicant's last amendment. It is requested that such PTO-1449 be resubmitted in applicant's next response.

3. Applicant is again requested to clarify the matters concerning the drawing changes and the substitute specification.

4. Applicant is also requested to amend the Brief Summary of Invention to focus more on the claimed invention. See 37 CFR 1.73 or M.P.E.P. 608.01(d).

5. Claim 71, 72, 74-78, 80-84 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 71, 72, 74-77 these claims are rendered incomplete since it fails to establish a proper cooperative structural relationship between the recited means of the claims. In other words, the claim fail to make clear the structure which

goes to make up the device.

As per claims 74, 75, 78, 80-84, the language "during an instruction cycle" (no later than during the same instruction cycle) is still awkward and unclear in meaning.

As per claims 78, 80-84, it is recommended that the wording "machine implemented" be inserted before the word "method" at line 1 inorder to positively recite that the method is a computer implemented method. ~~Claims here the execution of branch instruction and non branch instruction are occurred in parallel since the claim only recites.~~

6. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

7. Claims 71-72, 74-78, 80-84 are rejected under 35 U.S.C. § 103 as being unpatentable over McDowell reference in view of Freiman et al (3,343,135).

the reasons have been presented in the previous Office

actions and will not be repeated. Applicants as per pages 12 and 13 of the remark summarize the differences between the prior art and the claims as follows: (1) McDowell fails to teach the execution of the branch instruction being completed no later than the completion of the last non-branch instruction; (2) there is not teaching in any of the cited references that the branch instruction will complete earlier than the other MOPs in the PI; (3) neither McDowell nor Freiman et al disclose or recognized the advantage of trying to move the branch instruction to a position wherein it begins to execute earlier; (4) Freiman et al do not refer to the branch instructions, and do not recognize that the branch instructions can be processed in parallel with other instructions being processed.

With respect to the first differences, it is noted that the last paragraph on pages 474 and 475 of McDowell teach or suggest all instructions being executed in parallel and that all tasks be completed in the shortest number of time units. The teaching in McDowell for executing all instruction in parallel certainly suggests the execution of the branch instruction not to be started or completed after the last non-branch instruction. If the branch instruction is to be started or completed after the completion of the non-branch instruction, then the branch instruction is not executed in parallel with other instructions and the task is not completed in the shortest number of time

units. Freiman et al as per column 3, lines 1-5 also suggest the desirability to determine the earliest and latest times for executing instruction in parallel. An artisan having McDowell and Freiman before him would have found it obvious to execute the branch instruction in the McDowell reference in the earliest time in order to optimize the utilization of the processors and to complete the task in the shortest number of time units.

With respect to the second differences, Freiman as pointed out in the previous paragraph certainly teaches that the branch instruction may be completed earlier then the other MOPs in the PI. It is also noted that the broadest interpretation of the claims do not recite the limitation of having the branch instruction completed earlier than other MOPs in the PI.

With respect to the third differences, the last paragraph of pages 474 and 475 of McDowell and column 3, lines 1-5 of Freiman et al, for example teach or suggest the advantage of executing instructions at the earliest time.

With respect to the last differences, the argument only addresses the differences over the subject matter of Freiman et al alone and is not relevant to the rejection based on the subject matter of McDowell in view of Freiman et al.

8. This is a continuation of applicant's earlier application S.N. 07/560,093. All claims are drawn to the same invention claimed in the earlier application and could have been finally

rejected on the grounds or art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See M.P.E.P. § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to E. Chan whose telephone number is (703) 308-0776.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0754.

EDDIE P. CHAN
PRIMARY EXAMINER
GROUP 2300

EC/ss
October 17, 1992